

Serial No. 09/740,913

July 28, 2003

Reply to the Office Action dated February 26, 2003

Page 7 of 10

REMARKS/ARGUMENTS

Claims 1-4, 7, 9, 11-15, 18, and 20 are pending in this application. By this Amendment, Applicants AMEND claims 1 and 11.

Claims 1-4, 7, 9, 11-15, 18, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuroda (U.S. 6,215,229), Wajima (U.S. 6,274,968) or Sugiyama (U.S. 6,160,462) in view of Tsuji et al. (U.S. 5,699,027) or Onishi (U.S. 5,459,368). Applicants respectfully traverse the rejection of claims 1-4, 7, 9, 11-15, 18, and 20.

Claim 1 has been amended to recite:

"A piezoelectric resonator comprising:
a piezoelectric resonating element; and
a first exterior substrate and a second exterior substrate laminated over and under, respectively, on said piezoelectric resonating element;
wherein each of said first exterior substrate and said second exterior substrate includes a multilayer substrate having at least one layer of an internal electrode;
said first exterior substrate and said second exterior substrate each includes a first substrate material layer which is liquid-sintered and a second substrate material layer which has a sintering temperature greater than the sintering temperature of said first substrate material layer; and
each of said first exterior substrate and said second exterior substrate has a deflective strength of at least 2000 kg/cm²." (emphasis added)

Applicants' claim 1 recites the features of "said first exterior substrate and said second exterior substrate each includes a first substrate material layer which is liquid-sintered and a second substrate material layer which has a sintering temperature greater than the sintering temperature of said first substrate material layer" and "each of said first exterior substrate and said second exterior substrate has a deflective strength of at least 2000 kg/cm²". Applicants' claim 11 recites features which are similar to the features recited in Applicants' claim 1, including the above emphasized features. With the improved features of claims 1 and 11, Applicants have been able to provide a built-in

Serial No. 09/740,913
July 28, 2003
Reply to the Office Action dated February 26, 2003
Page 8 of 10

load capacitance type piezoelectric oscillator in which a three-terminal capacitor is connected to the piezoelectric resonating element that is miniaturized and shortened (see, for example, the second full paragraph on page 5 of the Specification).

First, Applicants have amended claims 1 and 11 to recite the structural feature of "said first exterior substrate and said second exterior substrate each includes a first substrate material layer which is liquid-sintered and a second substrate material layer which has a sintering temperature greater than the sintering temperature of said first substrate material layer."

Applicants respectfully submit that the feature of "second substrate material layer which has a sintering temperature greater than the sintering temperature of said first substrate material layer" recited in Applicants' claims 1 and 11 clearly recites structural features which are not taught or suggested by any of the prior art of record.

Second, as argued in the Request for Reconsideration, dated May 6, 2003, it is the Applicants' understanding that a parameter cannot be optimized unless it is recognized as a result effective variable. Applicants respectfully request that Examiner further explain his comment on the Advisory Action, form PTO-390, that "the rejection is proper as stated." More specifically, Applicants request that the Examiner cite a reference in support of his position that it was well known at the time of Applicants' invention that deflective strength of a substrate in a piezoelectric resonator was a recognized result effective variable as requested in the Request for Reconsideration, dated May 6, 2003.

Third, the Examiner has failed to provide proper motivation for combining the teachings of Kurada, Wajima, and Sugiyama with Tsuji et al. and Onishi. The Examiner stated in the last paragraph on page 2 of the Office Action dated September 18, 2002 that "Tsuji [et al.] and Onishi teach mounting piezoelectric resonators on substrates provided as laminated layers incorporating circuit elements in an integral construction." The Examiner further explained that "to provide an [sic] very compact self contained piezo resonator as shown in Tsuji [et al.] it would have been obvious to one of ordinary

Serial No. 09/740,913
July 28, 2003
Reply to the Office Action dated February 26, 2003
Page 9 of 10

skill in the art to use laminated substrates with Kuroda, Wajima or Sugiyama." However, neither Tsuji et al. nor Onishi teach or suggest the use of piezoelectric resonators. In contrast, Tsuji et al. and Onishi teach the use of surface acoustic wave elements.

Thus, Applicants respectfully submit that the Examiner has failed to explain why one of ordinary skill in the art would have been motivated to modify the piezoelectric resonators of Kuroda, Wajima, and Sugiyama in view of the teachings Tsuji et al. or Onishi which are directed to surface acoustic wave devices.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Kuroda, Wajima or Sugiyama in view of Tsuji et al. or Onishi.

Accordingly, Applicants respectfully submit that Kurada, Wajima, Sugiyama, Tsuji et al., and Onishi, applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claims 1 and 11 of the present application. Claims 2-4, 7, and 9 depend upon claim 1 and are therefore allowable for at least the reasons that claim 1 is allowable. Claims 12-15, 18, and 20 depend upon claim 11 and are therefore allowable for at least the reasons that claim 11 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicants petition the Commissioner for a TWO-month extension of time, extending to July 26, 2003, the period for response to the Office Action dated February 26, 2003.

Serial No. 09/740,913
July 28, 2003
Reply to the Office Action dated February 26, 2003
Page 10 of 10

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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